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On critical values of polynomials with real critical points

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Abstract

Let f be a polynomial of degree at least 2 with f(0)=0 and f′(0)=1. Suppose that all the zeros of f′ are real. We show that there is a zero ζ of f′ such that {pipe} f(ζ)/ζ{pipe} ≤ 2/3, and that this inequality can be taken to be strict unless f is of the form f(z)=z+cz3. © 2009 Springer Science+Business Media, LLC.

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